
Valeriana eupatoria (Valerianaceae), a New Species from Rio Grande do Sul, Brazil

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ABSTRACT. *Valeriana eupatoria*, a new species native to *Araucaria* forests from upland Rio Grande do Sul, southern Brazil, is described and illustrated. It is apparently related to *V. chamaedryfolia*, from which it is set apart chiefly by its larger inflorescences and non-lobate, pubescent, and larger leaves.

RESUMEN. Se describe e ilustra *Valeriana eupatoria*, una nueva especie nativa de los bosques montanos de *Araucaria* de Rio Grande do Sul, en el sur de Brasil. La especie aparentemente está relacionada con *V. chamaedryfolia*, de la cual se diferencia principalmente por las inflorescencias más grandes y sus hojas no lobadas, enteras, pubescentes y más grandes.

The familial status of Valerianaceae is debatable in light of recent studies; Judd et al. (1994) merged it in Caprifoliaceae based mainly on morphological and anatomical similarities. Molecular studies (APG, 1998; Backlund & Pyck, 1998; Pyck et al., 1999) point to the close relationship of both groups, establishing the derivation of Valerianaceae from a caprifolioid ancestor; these authors, in spite of the opinion of Judd et al. (1994), maintain Valerianaceae as a separate family. I have chosen to follow their lead. If maintained as a separate family, the Valerianaceae comprise from 9 (Gunn et al., 1992) to 13 (Cronquist, 1981) genera. *Valeriana* is the largest genus in the family, with about 300 species (Cronquist, 1981).

Valeriana L. in South America attains its highest diversity in the Andes; the Brazilian species are disjunct from this Andean stock and restricted chiefly to montane habitats in southern and eastern regions of the country, from Minas Gerais to Rio Grande do Sul, showing a marked southward increase in number of species. The last thorough taxonomic revision of *Valeriana* in Brazil listed 15 species (Borsini, 1962). One more species was recently described (Sobral, 1999), and, during a study of the genus in Rio Grande do Sul, the southernmost state in Brazil, another unnoticed shrubby species was detected; it is herein described as new.

Valeriana eupatoria Sobral, sp. nov. TYPE: Brazil. Rio Grande do Sul: Linha Quinze, Gramado, 29°20'S, 50°53'W, Oct. 1997 (stam. fl), M. Sobral & C. Miró 8604 (holotype, ICN; isotypes, FLOR, MBM, MO, RB, SP, US). Figures 1, 2.

Species nova *V. chamaedryfoliae* proxima, a qua foliis non lobatis, pubescentibus, foliis et inflorescentiis longioribus distincta est.

Dioecious, erect or occasionally prostrate, sympodially branching undershrubs or shrubs 0.5–1.5 m high. Twigs, leaves, and inflorescence axes pubescent with hyaline hairs 0.1–0.3 mm long. Leaves opposite, simple, lanceolate, elliptic-lanceolate or ovate-lanceolate, discolored when dried, pilose on both faces, more densely so abaxially, 8–13 cm long and 2.2–3.7 cm wide; apex narrowly acuminate; base cuneate and decurrent along the pseudopetiole; central nerve adaxially plane or sulcate, abaxially salient; secondary nerves 4 to 6 (8) pairs, plane or sulcate above and salient below, the second pair stronger than the others, the two first pairs sometimes diverging at a narrower angle than that of the other veins (about 30°); margins irregularly serrate, with 16 to 25 teeth 4–6 mm long near the blade midpoint; pseudopetiole 6–10 × 1–2 mm, the leaf bases connate across stem node. Inflorescences in terminal panicles, the staminate ones 40–50 × ca. 30 cm, the pistillate ones 20–30 × 10–18 cm, with 3 orders of branching to the ultimate dichasial units; bracts on the lower two nodes of the inflorescence 4–7 × 1.5–2.0 cm, similar to the leaves but occasionally with a pair of evident basal lobes, the other bracts much smaller, up to 20 mm long and 5 mm wide, acropetally diminishing in size. Bracteoles lanceolate, up to 0.4 × 0.2 mm. Flowers of both sexes sessile, pentamerous; calyx obsolete, generally reduced to a warty intumescence with no evident teeth at the base of the flowers, in some flowers hardly visible. Staminate flowers white, campanulate, 0.8–0.9 × 0.7–1.0 mm, the lobes acute, 0.4–0.5 × 0.4–0.5 mm; stamens 3, 1.0–1.2 mm long, the anthers globose, 0.3 × 0.2–0.3 mm, bithecal. Pistillate flowers

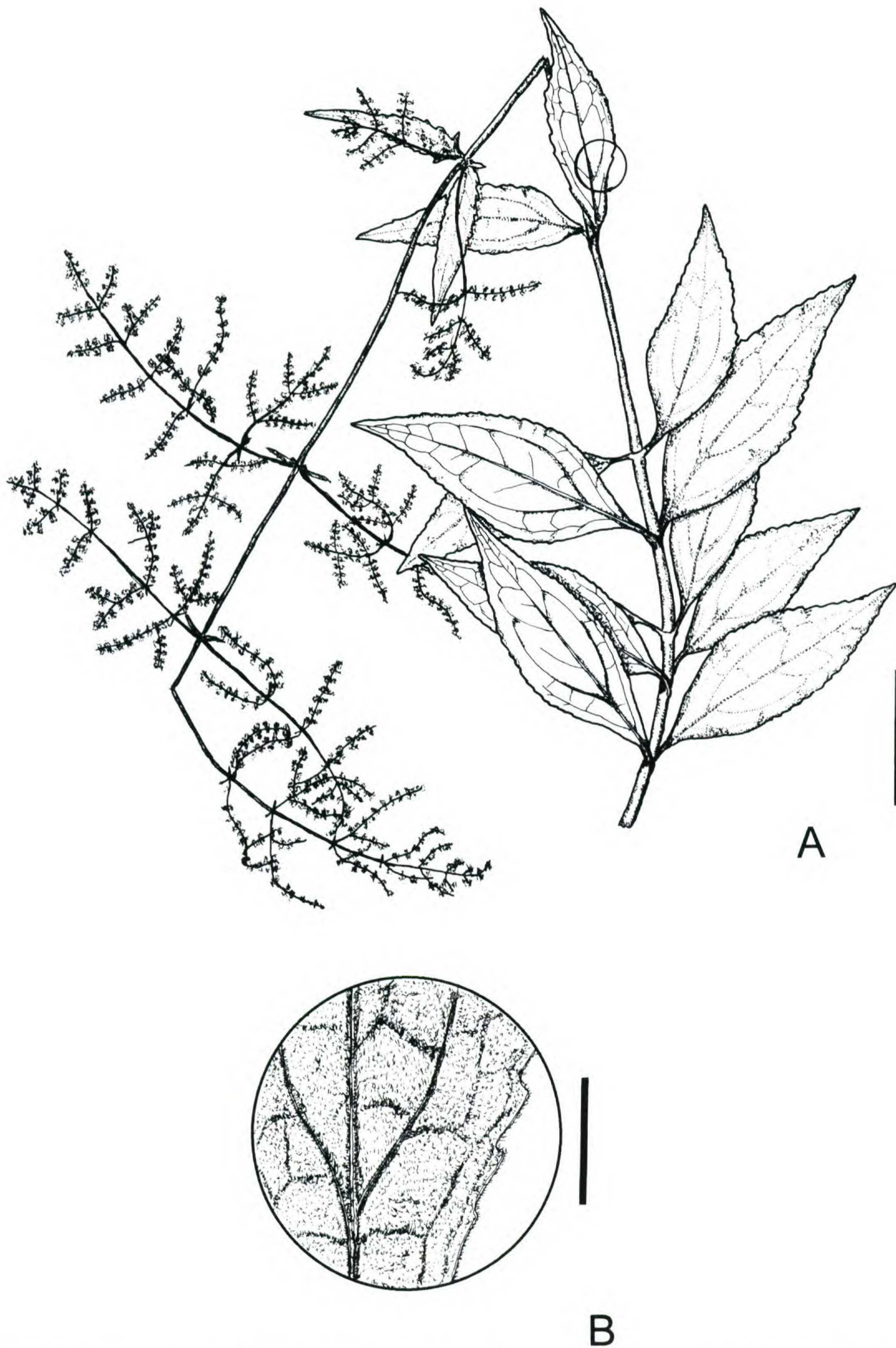


Figure 1. *Valeriana eupatoria* Sobral. —A. Flowering branch from staminate plant. —B. Detail of adaxial surface from encircled portion in A. (Duplicate at ICN of Sobral & Miró 8600.) Scale bars: A = 50 mm; B = 10 mm.

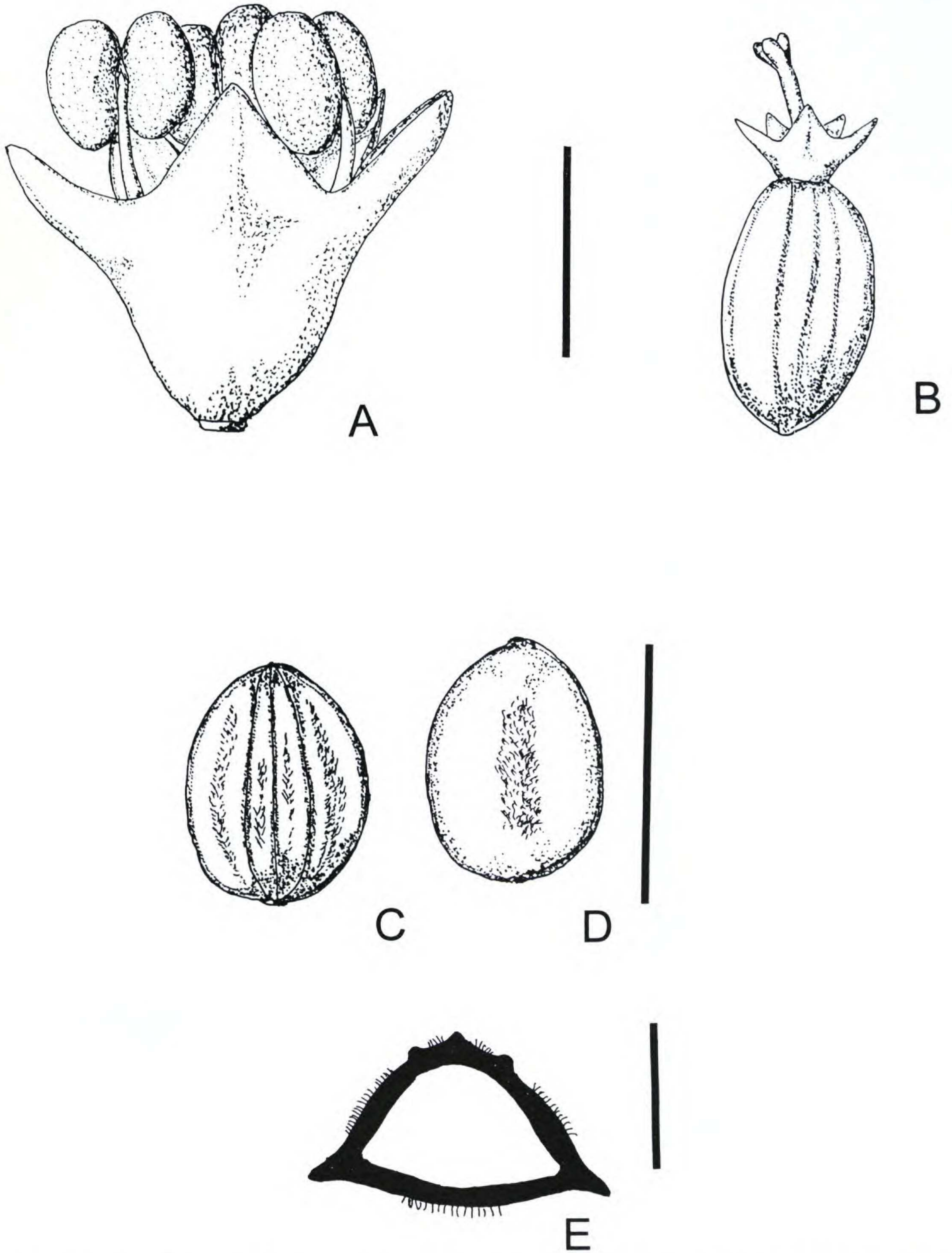


Figure 2. *Valeriana eupatoria*. Flowers and fruit. —A. Staminate flower. —B. Pistillate flower. —C. Fruit, abaxial view. —D. Fruit, adaxial view. —E. Fruit, transverse view. (A, Sobral & Miró 8604; B, Sobral & Miró 8600; C–E, Sobral et al. 8713.) Scale bars: A, B = 0.5 mm; C, D = 1 mm; E = 0.5 mm.

white, campanulate, 0.3–0.4 × 0.2–0.3 mm, the lobes acute and occasionally somewhat unequal, up to 0.2 × 0.1–0.2 mm; staminodes 3, up to 0.1 mm long, laminar and apically rounded; style 0.3 mm long, stigmas 3, papillose, 0.1 mm long; ovary 0.5 mm long, 5-ridged, unilocular, uniovulate. Fruits elliptical, somewhat transversely triquetrous, 5-costate, slightly hairy, 0.7–1.0 × 0.4–0.5 mm.

Valeriana eupatoria is close to *V. chamaedryfolia* Chamisso & Schlechtendal. Both species are known only from the state of Rio Grande do Sul, although their geographical distributions, as far as known, do not overlap. *Valeriana eupatoria* grows in the upland northeastern part of the state, in vegetational formations dominated by ombrophilous forests of *Araucaria angustifolia* (Bertoloni) Kuntze; *V. chamaedryfolia* thrives in rocky fields in central and southwestern Rio Grande do Sul, where vegetation consists mainly of rocky fields and drier forests devoid of *Araucaria*. Besides this ecological distinction, they can be set apart morphologically by the following characters:

- 1a. Leaves up to 7 cm long × 2 cm wide, glabrous or with scattered hairs along the nerves; some mature leaves with at least one pair of lobes at pseudopetiole bases; inflorescences up to 18 cm long; blades about 6 times longer than the pseudopetioles, these 13–18 mm long; leaf teeth up to 10, 4–7 mm long, evident in relation to blade width *Valeriana chamaedryfolia*
- 1b. Leaves exceeding 7 cm, up to 13 cm long, exceeding 2 cm in width (to 3.7 cm), pubescent on both faces, more densely beneath; mature leaves never with a lobed base (although the bracts may occasionally be lobed); inflorescences 18–50 cm long; blades 12–20 times longer than the pseudopetioles, these 6–10 mm long; leaf teeth 16–25, 4–6 mm long, not always marked in relation to blade width *Valeriana eupatoria*

Phenology. Flowers from August to December, fruits in December.

Distribution. *Valeriana eupatoria* is known from four municipalities of upland northeastern Rio Grande do Sul (“planalto” or “Serra Geral”), a montane region with altitudes up to 1200 m, dominated by *Araucaria* forests and cloud forests intermixed with fields.

Ecology. Shrub from forest edges in *Araucaria*

angustifolia forests and occasionally edges of marshes and fields at 500–900 m above sea level.

Etymology. The species is named for the resemblance of its leaves to southern Brazilian species of the asteraceous genus *Eupatorium*. When sterile, *V. eupatoria* is easily confused with that genus.

Paratypes. BRAZIL. **Rio Grande do Sul:** Fazenda Potreirinho, Bom Jesus, Dec. 1977 (stam. fl), *Camargo* 5553 (HAS, ICN); Itaimbezinho, Cambará do Sul, 20 Feb. 1953 (stam. fl), *Rambo* 54070 (PACA), 13 Nov. 1953 (stam. fl), *Rambo* 54488 (PACA); Linha Quinze, Gramado, 29°20'S, 50°53'W, Aug. 1997 (stam. fl), *Sobral & Diesel* 8487 (ICN), Oct. 1997 (stam. fl), *Sobral & Miró* 8600 (ESAL, FLOR, ICN, MBM, NY), Oct. 1997 (stam. fl), *Sobral & Miró* 8601 (ICN, MBM), *Sobral & Miró* 8602 (ICN, MBM, SP), Oct. 1997 (pist. fl), *Sobral & Miró* 8603 (ICN, MBM, SP, US), Dec. 1998 (pist. fl), *Sobral et al.* 8713 (ICN, MBM), *Sobral et al.* 8714 (ICN, MBM, MO); Chapada, São Francisco de Paula, 18 Nov. 1984 (stam. fl) *Batista & Pilz s.n.* (ICN 117397).

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